



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,529	07/12/2006	Jun Hirano	L8638.05108	4475

52989 7590 02/18/2010

Dickinson Wright PLLC  
James E. Ledbetter, Esq.  
International Square  
1875 Eye Street, N.W., Suite 1200  
Washington, DC 20006

EXAMINER

OBAYANJU, OMONIYI

ART UNIT

PAPER NUMBER

2617

MAIL DATE

DELIVERY MODE

02/18/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/550,529	<b>Applicant(s)</b> HIRANO ET AL.	
	<b>Examiner</b> OMONIYI A. OBAYANJU	<b>Art Unit</b> 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2009.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 31,32,35-41 and 44-49 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 31,32,35-41 and 44-49 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 September 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>09/22/2005, 12/12/2007, 04/21/2008, 07/13/2009</u> . | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Arguments*

Applicant's arguments with respect to claims 32-49 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 32 and 41 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In regards to the amended claims 32 and 41, Applicant stated at least in part that **“in the contention resolution step, the given radio communication device divides the overlapped time slot into a plurality of time slots**, exchanges identification information with a radio communication device whose time slot overlaps, and selects one of the plurality of time slots in the overlapped time slot based on a comparison result of the identification information of the given radio communication device with the identification information of the radio communication device whose time slot overlaps”.

First according to the original specification on file, it is not clearly described and/or mentioned that **“in the contention resolution step**, the given radio communication device divides **the overlapped time slot** into a plurality of time slots”, According to Fig. 7 which describes the contention resolution step, did not clearly describe and/or mention any step of **“the given radio communication device divides the overlapped time slot into a plurality of time slots”**.

Furthermore, the Applicant seems to use terms in the claimed limitations which makes the claimed limitation unclear in light of the specification e.g. **“the overlapped time slot”**.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 32 and 41 recites the limitation **“the overlapped time slot”** in claims 32 and 41. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 32-49, are rejected under 35 U.S.C. 103(a) as being unpatentable over Haartsen (US Publication No. 20020126692) in view of Montano (US Patent No. 7280518) and Chuah (US Publication No. 20030214928) and further in view of Le et al. (US Publication No. 20030035434).

As to **claims 32 and 41**, Haartsen teaches a radio communication method for a radio communication system, the radio communication system being composed of a plurality of radio communication devices (abs) in such a manner that radio communication devices other than a given radio communication device exist within a communication area of the given radio communication device (pg. 2, pp0017, lines 1-10), and a time slot setting step of setting a first time slot which is different (pg. 2, pp0015, lines 4-7) from a second time slot as a time slot which can be used at higher priority by the given radio communication device in order to manage an accommodated radio communication terminal, the second time slot being any one of time slots which can be used at higher priority by the other radio communication devices (pg. 2, pp0017, lines 16-18) and a contention resolution (pg. 6, pp0052, lines 1-5) step of performing contention resolution processing to avoid overlap between the first time slot and the second time slot when, in the time slot setting step, the first time slot can not be set as the time slot which can be used at higher priority by the given radio communication device (pg. 4, pp0042, lines 1-15) wherein: in the contention resolution step, exchanges identification information (priority levels) with the radio communication device

Art Unit: 2617

whose time slot overlaps (coincides) (pg. 2, pp0015, lines 1-7). However, Haartsen fails to teach each of the plurality of radio communication devices being able to accommodate and manage a radio communication terminal, and the radio communication method being performed by the given radio communication device, comprising: a detection step of detecting existence of other radio communication devices within the communication area of the given radio communication device; a time slot division step of dividing a communication period on a wireless medium into a plurality of time slots based on a number of other radio communication devices detected.

But Montano teaches each of the plurality of radio communication devices being able to accommodate and manage a radio communication terminal (each non-coordinating devices performing the coordinator function, col. 2, lines 50-55), and the radio communication method being performed by the given (coordinator) radio communication device, comprising (fig. 1, and col. 3, lines 10-40): a detection step of detecting existence of other radio communication devices within the communication area of the given radio communication device (fig. 3, #350, and col. 2, lines 65-67); a time slot division step of dividing (shared) a communication period on a wireless medium into a plurality of time slots based on a number of other radio communication devices detected (col. 16, lines 1-5). Thus it would have been obvious to one of ordinary skill in the art at time the invention was made to combine the teachings of Haartsen with the teachings of Montano to achieve the goal of accurately managing the transmission of data in a

communication system to prevent or avoid signal or data collision in the channel and to carrying out desired communication between a controlling device and non-controlling devices.

However, both Haartsen and Montano fails to teach that the given radio communication device divides the overlapped time slot into a plurality of time slots, and selects one of the plurality of time slots in the overlapped time slot based on a comparison result of the identification information of the given radio communication device with the identification information of the radio communication device whose time slot overlaps.

But, Chuah teaches, that the given radio communication device divides the overlapped time slot (contention reservation slot) into a plurality of time slots (pg. 7, pp0092). However, Haartsen, Montano, and Chuah fails to teach selects one of the plurality of time slots in the overlapped time slot based on a comparison result of the identification information of the given radio communication device with the identification information of the radio communication device whose time slot overlaps.

But, Le teaches selects one of the plurality of time slots in the overlapped time slot based on a comparison result of the identification information (priority factors) of the given radio communication device with the identification information of the radio communication device whose time slot overlaps (col. 6, lines 30-52). Thus it would have been obvious to one of ordinary skill in the art at time the invention was made to combine the teachings of Haartsen and Montano

Art Unit: 2617

with the teachings of Chuah and Le to achieve a communication system that can accurately and reliably provide communication access or channel assignment to efficiently transfer data information and to overcome delays in a communication system.

As to **claims 35 and 44**, Haartsen teaches comprising a time slot identification information (slotted channel) sending step of sending identification information of the first time slot to one of the other radio communication devices (pg. 2, pp0018, lines 5-13), so that one of the other radio communication devices can select the second time slot based on the identification information of the first time slot (pg. 2, pp0018, lines 13-17).

As to **claims 36, 37, 45, and 46**, Haartsen teaches comprising a priority communication step of accessing the wireless medium in the first time slot, using a waiting time shorter and longer than those for the other radio communication devices (pg. 6, pp0049, lines 1-14).

As to **claims 38 and 47**, Haartsen in view of Montano and further in view of Cain teaches the limitations of claim 32 as discussed above.

Montano further teaches wherein in the time slot division step, the given radio communication device divides the communication period evenly (fig. 9, #940) into the plurality of time slots (col. 14, lines 45-55), the communication period having a common length of a common period which is determined among the radio communication devices (col. 15, lines 1-10). Thus it would have been obvious to one of ordinary skill in the art at time the invention was made to



Art Unit: 2617

combine the teachings of Haartsen and Montano with the teachings of Cain to achieve the goal of accurately managing the transmission channel of a communication system to prevent or avoid signal collision in the channel.

As to claims 39 and 48, Haartsen in view of Montano and further in view of Cain teaches the limitations of claim 38 as discussed above. However, Montano further teach comprising a synchronization step of synchronizing with the other radio (non-coordinating) communication devices regarding the common period (col. 7, lines 52-55). Thus it would have been obvious to one of ordinary skill in the art at time the invention was made to combine the teachings of Haartsen and Montano with the teachings of Cain to adequately and efficiently sync wireless terminals over an allocated time in a communication system.

As to claims 40 and 49, Haartsen teaches comprising a time slot resetting (assigning) step of, when it is detected that the radio communication device which can use the second time slot at higher priority shuts down, resetting (assigning) the plurality of time slots so that the second time slot can be used by the radio communication devices (pg. 5, pp0042, lines 13-15).

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Art Unit: 2617

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to OMONIYI A. OBAYANJU whose telephone number is (571)270-5885. The examiner can normally be reached on Mon - Fri, 7:30 - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent P. Harper can be reached on 571-272-7605. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2617

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/O. A. O./  
Examiner, Art Unit 2617

/VINCENT P. HARPER/  
Supervisory Patent Examiner, Art  
Unit 2617